



City of Rockville
Dept. of Community Planning & Development Services
Planning Division
111 Maryland Ave. • Rockville, MD 20850-2364 • 240-314-8200
www.rockvillemd.gov

ATTACHMENT "A"

APPLICATION FOR SPECIAL EXCEPTION (SPX)

PROJECT IDENTIFICATION: Omnipoint Communications - Julius Middle School

Application is hereby made with the Board of Appeals of Rockville for approval of a Special Exception for the property described below:

PLEASE PRINT CLEARLY OR TYPE	PROPERTY ADDRESS		
	NUMBER, STREET & ZIP		
	651 Great Falls Road 20850		
	SUBDIVISION	LOT	BLOCK
	201	N/A	N/A
	ZONING	TAX ACCOUNT NO.	PROPERTY SIZE (in square feet)
	R-60	00143096 & 00143132	21.31 acres
APPLICANT*	NAME MAILING ADDRESS - NUMBER, STREET, CITY, STATE, ZIP PHONE / FAX / E-MAIL		
	FIRST	12050 Baltimore Avenue (p) 240-260-8644	
	LAST	Beltsville, MD 20705 (p) 240-260-8644 (e) Katie.oppenheimer@ + - mobile. cell	
PROPERTY OWNER	FIRST	850 Hungerford Drive	
	LAST	Rockville, MD 20850	
ARCHITECT Registration #	COMPANY		
	LAST	FIRST	
ENGINEER/ OTHER Registration #	COMPANY		
	LAST	FIRST	
20784	Main	Charles	
GROSS FLOOR AREA			
Total Gross Floor Area:	Office Gross Floor Area:	Retail Gross Floor Area:	Hotel Gross Floor Area:
N/A	N/A	N/A	N/A
Number and Type of Dwelling Units:		Number of Parking Spaces Provided:	
N/A	MF: 0 TH: 0 SFD: 0	N/A	

*A letter of authorization from the owner must be submitted if this application is filed by anyone other than the owner

Work description: A wireless telecom. facility consisting of a 70' monopole with nine (9) panel antennas and three (3) ground based equipment cabinets on a 10'x20' concrete pad next to the monopole inside a proposed 1000 ft² fenced gravel compound. The monopole is designed to accommodate no less than three (3) carriers.

List below the application numbers, filing dates and action taken on all prior applications filed within the past three years or currently in effect prior to this date for the Special Exception use of the whole or any part of the land described herein.

Application Number

Date

Action Taken

I hereby certify that I have the authority to make this application, that the application is complete and correct and that I have read and understand all procedures for filing this permit.

TO BE COMPLETED BY THE PLANNING DIVISION

Application #: SPX2005-00364
Staff Reviewer: CDC
Target Board of Appeals
Review Date: _____

Signature of Applicant

Katie Oppenheimer

Received by: N. Walters
Date: 12/9/05
Total fee: \$ 5020.00



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SPX

SUBMITTAL PROCEDURES FOR SPECIAL EXCEPTION (SPX)

Each applicant needs to be aware of the following facts about the processing of this application. After reading the following information, please sign below to acknowledge your understanding.

PRE-APPLICATION MEETING:

A pre-application meeting with the Development Review Committee or the Planning staff is recommended prior to filing all applications.

POSTING OF SIGN:

A sign must be posted on the property to provide notification of the application to the community. The City provides this sign to the applicant with 3 days of filing. It must remain posted until the Board of Appeals takes final action on the application. An affidavit of posting must be completed to certify that the sign was posted for the required time.

INSPECTION OF THE PROPERTY:

The members of the Board of Appeals and the City staff members must be given the opportunity to physically inspect the subject property to help them reach a decision on the application. This opportunity must be granted provided a reasonable notice is given for said inspection.

REVISIONS:

Revisions to the site plan or application may be made up to the filing date (60 days before the scheduled hearing date). Revisions made after the closing date may result in hearing postponement and/or the reposting of the subject property if the Planning Division or the chairman of the Board of Appeals decides that inadequate review or notification would result from the revisions.

HEARING/MEETING APPEARANCE:

The applicant must be prepared to present his/her case before the Board of Appeals and the Planning Commission.

THE DECISION:

Submission of this application with the filing fee is not a permit. The Board of Appeals will make the final decision (Approval/Denial/Dismissal) on this application. While the Planning Division and the Planning Commission may make recommendations to the Board on this application, these recommendations are advisory only and are not binding on the Board.

REFUNDS:

The filing fee is not refundable regardless of whether the application is approved or denied. Once the sign is returned, one-half of the sign fee (the deposit portion) will be refunded.

Natie Ongerud
Applicant

12/5/05
Date

BEFORE THE BOARD OF APPEALS
FOR ROCKVILLE, MARYLAND

In the Matter of the Petition of Omnipoint
Communications CAP Operations, LLC,
a subsidiary of T-Mobile, USA for
Special Exception Approval to Install a
Wireless Telecommunications Facility at
Julius West Middle School
651 Great Falls Road, Rockville, MD

:
:
:
: Case No. S _____
:
:
:

STATEMENT

In accordance with the requirements of the Zoning Ordinance of Montgomery County, Omnipoint Communications CAP Operations, LLC, a subsidiary of T-Mobile, USA ("T-Mobile" or "Applicant") hereby furnishes the following Statement in support of the request that a special exception be granted permitting the installation of an unmanned wireless telecommunication facility (the "Facility") to be located at Julius West Middle School, 651 Great Falls Road, Rockville, Montgomery County, Maryland (the "Property").

APPLICANT

T-Mobile holds a license issued to it by the Federal Communications Commission ("FCC") to provide personal communication service ("PCS") throughout the greater Baltimore-Washington, DC metropolitan areas, including all portions and sections of Montgomery County. T-Mobile now seeks approval of this special exception application to construct and operate the proposed unmanned wireless telecommunications facility in accordance with the terms, obligations and responsibilities of said license.

NATURE OF THE REQUEST

The Applicant requests special exception approval to permit the establishment of an unmanned wireless telecommunications facility. The Facility will primarily consist of the following:

- I. Nine (9)-panel antennas mounted at a height not to exceed 70' on a new 70' monopole;
- II. A screened 10'x20' equipment platform next to the monopole;
- III. Three (3) equipment cabinets placed on the platform.
- IV. Equipment cabinets will be concealed inside a 1000 +/- square foot fenced gravel compound and thirteen (13) Serbian Spruce trees to be planted after construction.

The proposed panel antennas measure approximately fifty-four inches (54") long, twelve inches (12") wide and four inches (4") deep. The equipment platform measures approximately twenty feet (20') in length, ten feet (10') in width. The equipment cabinets measure

approximately 63" (height), 51" (width), and 37" (depth). Coaxial cables will connect the equipment cabinets to the antennas. All related equipment will be screened from view within a 1000 square foot fenced compound as well as thirteen (9) Serbian Spruce trees (to be planted). The added landscaping will help The Facility to blend in with the existing woods line and minimize any visual impact to the surrounding area.

REASON FOR REQUEST

The proposed Facility is needed in order for T-Mobile to provide seamless coverage of its Personal Communication Services (PCS) network. T-Mobile is under an obligation by the terms of its FCC license to build its regional networks within time frames specified by the FCC. The proposed facility will assist T-Mobile in meeting the obligations of its FCC License.

T-Mobile currently experiences a gap in antenna coverage and a lack of capacity in the area surrounding 651 Julius West Middle School. In order to fulfill its service requirements, T-Mobile needs to locate a new telecommunications facility in this area. Seamless coverage areas for wireless communication are necessary for public convenience and service. Additionally, availability of wireless communications benefits the public safety and welfare by facilitating an individual's communication with police, fire & rescue operations in times of emergency.

In its evaluation of the need for service in the area and in completing an examination of possible site locations, T-Mobile has selected this location as an appropriate one for its Facility. By locating its Facility on such a large parcel with such generous setbacks, the Applicant minimizes any possible impact on the community.

Julius West Middle School located at 651 Great Falls Road is zoned R-60 (Residential). Telecommunications facilities are permitted by special exception under Section 25-374 and the Applicant requests special exception approval of the Facility at this location. In addition, in a residential zone such as this one, telecommunication monopoles may be no taller than 50' under Section 25-333 (c) 1. As the proposed monopole is 70', the Applicant also requests a waiver from this height restriction to be reviewed and approved by the Mayor and City Council as required under Section 25-333 (e) 3 b..

OPERATION OF THE FACILITY

The Facility will be in continuous operation 24 hours per day. It will cause no objectionable noise, vibrations, fumes, odors, dust, illumination, glare or physical activity at the Property. There will be no lighting of the Facility. The Facility will be unmanned and will not create any significant impact on traffic to the surrounding area. After the initial construction of the Facility, the only visits to the site will be for emergency repairs or regularly scheduled maintenance visits of 1-2 times per month. The Facility will not require any water or sewer service; electric and telephone service is already on site. There will be no special requirements for other public facilities or services.

CONDITIONS FOR GRANTING SPECIAL EXCEPTION, SECTION 23-338

1. The proposed use does not violate or adversely affect the Plan, this chapter or any other applicable law;

This proposed facility does not violate or adversely affect the Plan, this chapter, or any other applicable law (see below).

2. The proposed use at the location selected will not:

- a. Adversely affect the health and safety of residents or workers in the area;

There will be no harmful emissions or any electrical or blanketing interference from the equipment, transmission lines or antennas. The FCC does not permit the use of such facilities where the result will adversely impact television or radio reception, or have adverse impacts on garage door openers or other such devices. The Telecommunications Act of 1996 dismissed the question of environmental effects of radio frequency emissions from local consideration.

There will be no adverse impact on the health or safety; instead, the general welfare of the citizens and the surrounding properties will benefit from the improved mobile telephone (PCS) communications provided by T-Mobile. As discussed above, the proposed Facility is a low intensity use that does not impose adverse impacts upon surrounding properties. The Facility will blend in with the surrounding area and will be fairly innocuous to the public.

Public health and safety will benefit in that a number of county agencies, including police, fire and rescue, utilize PCS telephone communications in performing their important public service missions. Furthermore, vehicular accidents or crimes can be reported immediately after their occurrence when observed by a PCS user, which results in faster response time, by the police or rescue officials.

- b. Overburden existing public services, including water, sanitary sewer, public roads, storm drainage and other public improvements;

The Facility will not require the use of water, sanitary sewer, storm drainage and therefore, will not overburden those public services. The use of public roads in conjunction with the Facility will also be minimal. There will be no significant impact on traffic or parking as the proposed use will only require on site personnel for emergency repairs and regularly scheduled maintenance visits of 1-2 times per month.

- c. Be detrimental to the use or development of adjacent properties or the neighborhood;

The Facility will not be detrimental to surrounding properties. The Facility is appropriately located along a substantial woods line, is proposed at a modest height, will be screened by fencing, and will be further screened by thirteen (13) proposed trees, allowing the Facility to have minimal, if any, visual impact, and will not cause any objectionable noise, fumes, or illumination. The proposed use will have no adverse effect on road congestion or safety, as no on-site personnel are required. Once the telecommunications facility is completed the only traffic to the facility would be for

routine maintenance or emergency repair, which is expected to be only one to two visits per month.

- d. Change the character of the neighborhood in which the use is proposed considering service currently required, population density, character, and number of similar uses;

The proposed installation will be in harmony with the character of the neighborhood. There will be no impact to existing parking, landscaping, or other features of the existing structure and property. The surrounding area is a mix of single family residential and institutional development. The only noticeably visible features of the proposed facility will be the very top of the proposed monopole. The existing tree line, however, is approximately 55'-60' in height and, therefore, the proposed monopole will only be visible 10'-15' above the tree line. The proposed facility will also be in harmony with the general character of the neighborhood. Further, as stated above, there will be no significant impact on traffic or parking. The proposed use is a low intensity use, only requiring on site personnel for emergency repairs and regularly scheduled maintenance visits of 1-2 times per month.

3. The proposed use complied with any requirements of this chapter that are applicable thereto.

The proposed use does comply with all requirements of Section 25-374 of this chapter, which directly applies to wireless telecommunications facilities (see below).

REQUIREMENTS FOR CERTAIN SPECIAL EXCEPTIONS

SEC. 25-374: WIRELESS COMMUNICATION FACILITY

- a. *Scope.* This section applies to wireless communication facilities mounted on freestanding antenna support structures.

The Facility does include mounting nine (9) panel antennas to a freestanding monopole.

- b. *Special development and use requirements.* Wireless communication facilities must comply with the development standards in Sec. 25-333.

See the section titled "SPECIAL DEVELOPMENT AND USE REQUIREMENTS; SEC. 25-333: STANDARDS FOR WIRELESS COMMUNICATION FACILITIES" below.

- c. *Additional findings required.* The following additional findings are required:

- (1) The location selected is necessary for the public convenience and service and cannot be supplied with equivalent

public convenience on a building or structure or collocated on an existing antenna support structure

T-Mobile has made an effort to collocate this facility on an existing building or structure before selected the freestanding monopole design. T-Mobile inquired about collocating on Julius West Middle School's rooftop to avoid the construction of a new, freestanding antenna support structure on the school's property. During a discussion with the Board of Education's representative Pat Hanehan, it was determined that the Board of Education of Montgomery County will not permit rooftop wireless communication facilities on their properties.

(2) For new antenna support structures to be located in a residential zone or within five hundred (500) feet of a residential zone, it shall be demonstrated that a good faith effort has been made to locate the proposed antenna support structure in a nonresidential zone more than five hundred (500) feet from a residential zone, with adequate coverage and on an isolated site with minimal visual impact.

T-Mobile has made an effort to locate this facility in areas of Rockville that are not zoned residentially or areas within five hundred (500) feet of a residential zone, but have found that they have been unsuitable locations for us to complete our coverage objective.

Alternative sites considered by the Applicant include:

- ◆ **Seven Locks Detention Center:** *Due to the increased security which resulted from 9/11 there the Applicant has found an unwillingness to lease space owned by municipal police stations or detention centers.*
- ◆ **Millenium Garden:** *This location provided considerably less tree coverage and less acreage (1.25 acres) than that of the proposed location at Julius West Middle School (~21 acres). In addition, the acreage would not allow for us to meet the setback requirements under Section 25-333 c. (9).*
- ◆ **First Baptist Church:** *This location was only .5 miles away from an existing T-Mobile rooftop facility at the Best Western Hotel ("WAN096") as shown on the attached propagation maps (Attachment G).*
- ◆ **Rockville Church:** *This location is also only .5 miles away from T-Mobile's existing site WAN096 as shown on the attached propagation maps (Attachment G).*

T-Mobile has also made an effort to minimize the visual impact of the proposed facility by screening the equipment with both fencing and landscaping as well as painting the antennas to match the support structure. In addition, the proposed monopole will only be visible 10'-15' above the existing tree line.

Furthermore, T-Mobile has developed several Montgomery County Public School sites under the Mandatory Referral process. While this is the first one the City has seen, this has been a successful program at more than a dozen schools in the county. Due to the modest height proposed for this facility, the existing tree cover at Julius West Middle School, and the large acreage (~21 acres), the Applicant believes the design of the proposed site is ideal for minimizing visual impact and will also be financially beneficial to Montgomery County Public Schools.

- (3) The city may hire an independent consultant to review evidence submitted by the applicant, and the applicant shall reimburse the City for reasonable cost of hiring and utilizing such a consultant.

The Applicant agrees to reimburse the City for reasonable cost of hiring and utilizing such a consultant.

SPECIAL DEVELOPMENT AND USE REQUIREMENTS

SEC. 25-333: SPECIAL DEVELOPMENT STANDARDS FOR WIRELESS COMMUNICATION FACILITIES

- b. Wireless communication facilities attached to the roof or side of a building, or attached to an existing structure, shall comply with the following...

Not applicable, as the Facility includes mounting nine (9) panel antennas to a freestanding monopole not to a building.

- c. Wireless communication facilities that include ground-mounted antenna support structure shall comply with the following:

- (1) The maximum height of the facility, including antenna and other attachments, shall be fifty (50) feet in a residential zone or within five hundred (500) feet of a residential zone and one hundred ninety-nine (199) feet in all other locations. Height shall be measured vertically from the pre-disturbance ground level at the center of the support structure.

The proposed facility is 70' in height, exceeding the height allowance by 20'. As part of this petition for a special exception, the Applicant also requests a waiver from this height restriction to be reviewed and approved by the Mayor and City Council as required under Section 25-333 (e) 3 b..

- (2) Monopoles shall be the preferred type of freestanding antenna support structure.

The proposed facility is a freestanding monopole design.

- (3) No commercial or promotional signs, banners, or similar devices or material will be permitted on antenna support structures.

There are no new signs proposed for this facility unless required by the Federal Communications Commission, the Federal Aviation Administration, or Montgomery County.

- (4) The ground-mounted antenna support structure shall be located and designed, in a manner that is harmonious with surrounding properties, to the extent practicable. Antenna support structures shall be designed to blend into the surrounding environment through the use of color and camouflaging architectural treatment. When practicable, available stealth structure design techniques shall be used.

T-Mobile believes that the design of this particular monopole installation goes a long way toward minimizing its impact on the surrounding area. Not only will the proposed antenna array be located conservatively above the existing tree line by only 10'-15', but the antennas themselves will be painted a color to match the color of the proposed monopole. In addition, by placing the proposed equipment cabinets within a fenced compound further screened by thirteen (13) trees to be planted after construction, T-Mobile would submit that they will pose very little visual impact on adjacent or surrounding properties.

- (5) Wireless communication facilities shall be located on City-owned property, if feasible.

The Facility will be located on property owned by the Montgomery County Board of Education with their offices located in Rockville, Maryland.

- (6) Antenna support structures must be set back one (1) foot for every foot of height of the structure, measured from the base of the structure to each adjoining property line or right of way.

The Facility's setbacks on all sides exceed the required 1:1 setback of 70' by more than 50%.

- (7) Lights are not permitted on antenna support structures unless they are required for aircraft warnings or other safety, or to comply with applicable laws and regulations. If required, minimum lighting requirements shall be applied, and strobe lights shall be avoided unless specified by the Federal Aviation Administration or the Federal Communication Commission.

There are no new lights proposed for this facility unless required by the Federal Aviation Administration or the Federal Communication Commission.

- (8) Outdoor storage equipment or items related to the wireless communication facility is prohibited on sites with antenna support structures.

There will not be any outdoor storage of equipment or other items, except as provided by these plans.

- (9) All antenna support structures erected as part of a wireless communication facility must be designed to accommodate collocation of additional wireless communication carriers. New antenna support structures of a height of one hundred fifty (150) feet or more shall be designed to accommodate collocation of a minimum of four (4) additional providers either upon initial construction or through future modification to the antenna support structure. Antenna support structures of less than one hundred fifty (150) feet shall be designed to accommodate collocation of a minimum of two (2) additional providers.

As the Facility will be less than one hundred fifty (150) feet, it will be designed to accommodate collocation of two (2) additional wireless carriers. The monopole will also be constructed in such a way to allow for a twenty (20) foot pole extension as requested by the City's Department of Community Planning and Development Services in a pre-filing meeting on November 22, 2005 to allow for more efficient antenna locations for the possible two (2) additional carriers to avoid the construction of a new facility in the area.

- (10) Prior to construction, each applicant shall provide certification from a registered structural engineer that the structure will meet pertinent design, construction, installation, and operation standards, including but not limited to the applicable standards of the Electronics Industries Association (EIA), the Telecommunications Industry Association (TIA), ANSI, and the BOCA Code in effect at the time of the building permit application.

The Applicant will provided certification from a registered structural engineer that the proposed structure will meet or exceed the standards of the EIA, TIA, ANSI, and the BOCA Code in effect at the time of the building permit application.

- (11) Upon completion of any sale or sublease of an antenna support structure, the owner of an antenna support structure shall provide written notice to the City's Inspection Services Division.

Upon completion of any sale or sublease of an antenna support structure, the owner of the proposed monopole shall provide written notice to the City's Inspection Services Division.

(12) The owner of a ground-mounted antenna support structure, at the owner's expense, shall remove antenna support structures when a wireless communication facility is not used for wireless purposes for a period of one hundred eighty (180) days in a 12-month period. The owner of a ground-mounted antenna support structure must immediately notify the City, in writing, of nonuse or abandonment of the structure upon its cessation as a wireless communication facility. Failure to remove an abandoned or unused ground-mounted antenna support structure will result in removal of the structure by the City at the expense of the owner.

The owner of the proposed facility, at the owner's expense, will remove all related equipment if unused for wireless purposes for a period of one hundred eighty (180) in a 12-month period. The owner of the facility will immediately notify the City, in writing, of nonuse or abandonment of the structure upon its cessation as a wireless communication facility.

(13) When a ground-mounted antenna support structure is removed by an owner, said owner shall apply for a demolition permit to remove the tower. A condition of the demolition permit is to restore the site to the standards required by the building code in effect at the time, at no expense to the City.

When a ground-mounted antenna support structure is removed by an owner, said owner will apply for a demolition permit to remove the tower.

d. Equipment enclosures located at ground level shall comply with the following standards:

(1) Each enclosure that contains the equipment of a single provider shall not exceed five hundred sixty (560) square feet of gross floor area and twelve (12) feet in height; if more than one (1) provider is to be accommodated in an enclosure, a single enclosure shall be constructed to accommodate the maximum number of providers that are required to colocate on the antenna support structure, up to a maximum of fifteen hundred (1,500) square feet in area and twelve feet (12) in height.

The equipment cabinets measure approximately 63" (height), 51" (width), and 37" (depth). Equipment cabinets will be concealed inside a 1000 +/- square foot fenced gravel compound large enough to accommodate the equipment of two (2) additional wireless carriers.

(2) The enclosure must conform to the applicable setback standards in the zone in which the property is located; setback standards for accessory buildings in section 25-311 are not applicable to equipment enclosures.

The Facility's setbacks on all sides exceed the required 1:1 setback of 70' by more than 50%.

- (3) The enclosure shall be screened to provide year-round screening. This standard may be met by one (1) or a combination of the following: fencing, walls, landscaping, structures or topography which will block the view of the equipment shelter as must as practicable from any street and/or adjacent properties. In areas of high visibility, fencing may be wrought iron, masonry or other decorative fencing material.

The equipment cabinets will be screened within a fenced compound in addition to thirteen (13) Serbian Spruce trees, which will be planted along the compound's perimeter for additional screening from adjoining streets and properties.

- (4) Lighting associated with equipment structures shall be directed so as to minimize any negative impact of such lighting on adjacent properties.

Not applicable. There are no new lights proposed for this facility unless required by the Federal Aviation Administration or the Federal Communication Commission.

- (5) When constructed as a freestanding building, the design of the enclosure shall be coordinated with the design of the existing main building on the same lot or, if there is no building on the lot, with the buildings on an adjoining lot, to the extent practicable. In addition, the enclosure shall be constructed of non-reflective materials.

Not applicable. This facility will not be constructed as a freestanding building.

- (6) When attached to an existing building, the enclosure must be designed in a manner that is harmonious with the existing building and surrounding properties.

Not applicable. The facility will not be attached to an existing, but will be a freestanding monopole design.

- (7) The equipment enclosure must be removed at the cost of the owner when the wireless communication facility is no longer being used by a wireless communication provider. Failure to remove abandoned equipment will result in removal by the city at the expense of the owner.

The equipment compound will be removed at the cost of the owner when the facility is no longer being used by a wireless communication provider.

- c. Waivers permitted.
- (1) Regulated satellite earth station antennas.
 - (2) Wireless communication facilities used for amateur service communications.
 - (3) All other wireless communication facilities.
- a. The Board of Appeals is authorized to grant a waiver from any and all of the standards of this section Se. 25-333, except for the height restrictions for a freestanding antenna support structure in subsection (c) (1) of this subsection, upon showing that compliance with this section would impose an undue hardship or prohibit or have the effect of prohibiting the provision of wireless communication services or would result in unreasonable discrimination among providers of functionally equivalent wireless communication services.
- b. Waiver requests from the height restrictions (subsection 25-333(c) (1)) for a freestanding antenna support structure may be granted by the Mayor and Council upon showing that compliance with this section would impose undue hardship or prohibit or have the effect of prohibiting the provision of wireless communication services or would result in unreasonable discrimination among providers of functionally equivalent wireless communication services. When requesting a height waiver under this provision, the applicant must submit evidence to the Mayor and City Council that the height requested for the freestanding antenna support structure is the minimum height necessary to provide adequate coverage for the area that is being served by the structure. The Mayor and Council, in reviewing any waiver request from this section, shall also consider the impact that the increased height of the antenna support structure would have on properties in the area surrounding the proposed structure, including, but not limited to, the visibility of the structure from residences and proposed methods mitigating the visibility of the structure.

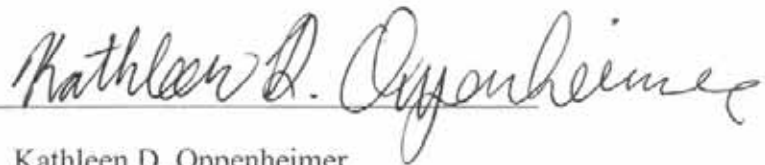
The Applicant requests a waiver from the height maximum in a residential zone of 50', as specified in Section 25-333 (c) 1., to allow for the proposed monopole to be at a height of 70' to be reviewed and approved by the Mayor and City Council as required under Section 25-333 (e) 3 b.. Evidence has been attached to illustrate that the 70' height requested for the proposed monopole is the minimum

height necessary to provide adequate coverage to the area surrounding Julius West Middle School (Attachment G).

The Applicant also asks the Mayor and City Council to consider the many methods used to minimize the visual impact of this facility. T-Mobile believes that the design of this particular monopole installation goes a long way toward minimizing its impact on the surrounding area. Not only will the proposed antenna array be located conservatively above the existing tree line by only 10'-15', but the antennas themselves will be painted a color to match the color of the proposed monopole. In addition, by placing the proposed equipment cabinets within a fenced compound further screened by thirteen (13) trees to be planted after construction, T-Mobile would submit that they will pose very little visual impact on adjacent or surrounding properties.

Respectfully submitted,

By:



Kathleen D. Oppenheimer
Omnipoint Communications CAP Operations, LLC
12050 Baltimore Avenue
Beltsville, MD 20705
240-264-8644



850 Hungerford Drive • Rockville, Maryland • 20850-1747

Telephone (301) 279-3425

Department of Facilities Management, 7361 Calhoun Place, Suite 400, Rockville, MD 20855

FAX: 301-279-3737

December 8, 2005

Mr. Castor D. Chasten, Planner III
Department of Community Planning and Development Services
City of Rockville
111 Maryland Avenue
Rockville, MD 20850-2364

Dear Mr. Chasten:

As you know, T-Mobile has requested permission to explore the installation of a monopole on the Julius West Middle School site.

As the enclosed Board of Education Policy ECN, *Telecommunications Transmission Facilities* indicates, Montgomery County Public Schools (MCPS) supports relevant federal, state, and local legislation on this topic.

In conformance with this policy, MCPS has authorized T-Mobile to explore this installation. I understand that this includes their application through the city's special exception process as well as their seeking a waiver from the height maximum because they are proposing a monopole of 70 feet in a residential zone.

If you have any questions, please contact Mr. Patrick R. Hanehan, real estate management specialist, at 301-279-3609.

Sincerely,

A handwritten signature in dark ink, appearing to read "RH" followed by a stylized flourish.

Richard G. Hawes, Director
Department of Facilities Management

RGH:jlc
Enclosure
Copy to:
Mr. Bowers
Mr. Hanehan
Ms. Turpin
Ms. Poirer
Mr. Tully

ECN

POLICY

BOARD OF EDUCATION OF MONTGOMERY COUNTY

Related Entries:

Responsible Office: Supportive Services

Telecommunications Transmission Facilities

A. PURPOSE

To establish the criteria by which the Board of Education will evaluate and make decisions concerning applications to place private telecommunications transmission facilities on sites owned by the Board of Education

B. ISSUE

There have been requests to place private telecommunications transmission facilities on sites owned by the Board of Education. Federal and county laws provide for such placements. The Board of Education needs to have criteria with which to consider such requests without compromising the school system's primary mission to provide a safe and supportive environment for the academic success of every student.

C. POSITION

1. The Board of Education supports federal and county legislation relating to the infrastructure of modern telecommunications systems and wishes to implement these laws without contravening the primary mission of the organization which is to provide a safe and supportive environment for the academic success of every student.
2. Factors such as site size, compatibility with the county's Master Plan and school site development plan, impact on school operations, school and community input (including school personnel and neighborhood citizens' concerns), compensation, and the ability to co-locate telecommunication facilities at the site shall all be considered when evaluating sites for telecommunications facilities on school property. Specifically, the following criteria will be considered in the evaluation of proposals:
 - a) Conformance of the proposal with federal and county legislation as demonstrated in the county's Telecommunications Transmission Facility Coordinating Group's (TTFCG) recommendation and the Maryland-National Capital Park and Planning Commission (M-NCPPC) report.
 - b) Telecommunications providers must show evidence of pursuit of co-location with other vendors and/or existing facilities.

ECN

- c) Telecommunications providers must have a long-range master plan for future telecommunications transmission facilities throughout the county.
 - d) Impact on the school site and operations based on input from school staff, PTSA, community groups, and facilities staff. These considerations should include the following:
 - (1) No site shall be considered unless it meets the acreage needed for standard setback requirements
 - (2) No private structure shall be placed on school buildings unless specifically negotiated and agreed to in the terms of the lease
 - (3) Any proposed installation must satisfy all legal, safety, and health requirements set forth in federal, state, and county codes and regulations
 - (4) Any proposed installation must be architecturally and aesthetically compatible with the school site
 - (5) For applications involving new monopoles or towers, the applicant making the proposal is responsible for notification of potentially affected communities
 - (6) Installation and location shall not disrupt normal operation of school system activities and/or community activities as determined by the principal or site manager
 - (7) The applicant shall bear all responsibility and related costs for liability and maintenance arising from the installation and its operation. This would include related upkeep, repair, and appearance of the tower, monopole, equipment building, enclosed grounds and fencing, and provision for its removal.
 - e) Demonstrated record in other site installations of compliance with contractual agreements and adherence to regulatory standards. In the event of the telecommunications company's bankruptcy, a sufficient bond is in place to cover the cost of removing the transmission facility and returning the site to its previous condition.
 - f) Benefit to the Board including provision of revenue to support educational improvements.
- 3 A standard MCPS lease form shall govern all leases and permits for telecommunications facilities on school property. The lease/permit shall require indemnification of the Board, its employees, and agents by the applicant for any contingent liability arising from the operation of the facility. The telecommunications company may not access the property during school hours except with prior notice and approval of the official designated by the building administrator. The school system

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reserves the right, prior to the conclusion of its stated term, to terminate the lease for cause, including lack of adequate maintenance. Revisions to the standard lease/permit form, except for changes required due to site specific concerns, shall not be accepted.

4. The superintendent will review and, if necessary, gather additional views of the community as well as principals and/or site managers and evaluate those views prior to making a decision.
5. Based on the criteria set forth in this policy, the superintendent will decide whether to approve the request and, if so, negotiate the most favorable terms. The applicant will be responsible for removing the installation completely and returning the site to its previous condition at conclusion of the contract.

D. DESIRED OUTCOME

Fair and consistent criteria with which to evaluate the appropriateness of placing telecommunication transmission infrastructures on school sites so that they do not detract from the primary mission of the school system

E. IMPLEMENTATION STRATEGIES

1. In compliance with Montgomery County Executive Regulation 14-96, the TTFCG will submit recommendations on proposed installations to the school system.
2. For those actions for which M-NCPPC approval is required, the superintendent will transmit that recommendation to the M-NCPPC for its review under the mandatory referral or special exception process. The review will include expert testimony and citizen input.
3. The superintendent will notify site managers and school PTAs of the proposed installation.
4. The superintendent will receive the M-NCPPC Report or Board of Appeals decision and any other relevant information and make a decision concerning the application.

F. REVIEW AND REPORTING

1. This policy will be reviewed on an ongoing basis in accordance with the Board of Education's policy review process.
2. Periodic reports on the implementation of this policy, including input from affected schools and communities, will be reviewed by the Board.

Policy History: Adopted by Resolution No. 656-97, November 11, 1997.

**ENGINEERING STATEMENT
RADIO-FREQUENCY EXPOSURE STUDY
JULIUS WEST MIDDLE SCHOOL
651 GREAT FALLS ROAD
ROCKVILLE, MARYLAND**

Pursuant to a request from T-Mobile Wireless ("T-Mobile"), also referred to as Omnipoint Communications CAP Operations, LLC, an analysis has been made of the radio-frequency ("RF") exposure in the vicinity of the proposed base station at the Julius West Middle School 651 Great Falls Road, Rockville, Maryland. This engineering statement describes the results of the analysis and the methodology employed.

Wireless Communications Service radio installations, such as that proposed by T-Mobile, are environmentally benign. They are compliant with the RF exposure standards adopted by the Federal Communications Commission ("FCC") and do not constitute a health hazard. They are not a potential source of interference to television or radio broadcast station reception or to electrical or electronic devices. They are neither a noise source nor a generator of traffic, nor do they emit noxious fumes.

T-Mobile proposes to install a 70-foot tall monopole approximately 600 feet west of the closest point on the school. The monopole will support the base station antennas centered at the 67-foot level. Antennas will be directed on three sector headings: 15, 135 and 255 degrees, respectively. The system will operate in the 1900 MHz (millions of cycles per second) band.

RFS Cablewave Model APX16PV-16PVL-A antennas are to be employed. Input power to each of three sector antennas will be approximately 5.0 watts. Each antenna

JULES COHEN, P.E.
Consulting Engineer

T-Mobile Site WAN143

Page 2

concentrates the power in a single main beam. That concentration results in producing approximately 38 times (15.8 dBd) as much "effective radiated power"¹ as would be produced using a dipole antenna (a simple antenna consisting of a half-wavelength long single element). By concentrating power directed toward the service area intended to be served, each antenna substantially reduces power delivered to nearby areas in directions at large departures from the main beam angle. The shaping of the beam occurs in both vertical and horizontal planes. At any location, reception is principally from the antennas of one sector.

All calculations shown herein of RF exposure from the facility were made on the basis of maximum effective radiated power. At six feet above ground immediately below the antennas, the RF exposure will be less than 0.006 percent of the maximum RF exposure permitted ("MPE") by FCC rules for the general population. At the outer surface of the school closest to the monopole and six feet above ground, the RF exposure will be less than 0.02 percent of the MPE. A tabulation of maximum exposure versus distance at six feet above ground for horizontal distances from 10 to 4000 feet follows on the next page:

¹ Effective radiated power is equal to the product of the input power to the antenna and the gain of the antenna. Gain is a measure of the effectiveness of the antenna to concentrate power into a single main beam.

JULES COHEN, P.E.
Consulting Engineer

T-Mobile Site WAN143

Page 3

Distance ² (feet)	Pwr. Density ($\mu\text{W}/\text{cm}^2$) ³	% of FCC MPE	Times Below MPE
10	0.0064	0.00064	160,000
20	0.0074	0.00074	130,000
40	0.023	0.0023	44,000
60	0.059	0.0059	17,000
100	0.063	0.0063	16,000
200	0.079	0.0079	13,000
300	0.100	0.0100	9,700
400	0.170	0.0170	6,000
500	0.210	0.0210	4,700
600	0.170	0.0170	6,000
700	0.140	0.0140	7,200
800	0.095	0.0095	11,000
900	0.075	0.0075	13,000
1000	0.054	0.0054	18,000
1500	0.022	0.0022	46,000
2000	0.0086	0.00086	120,000
3000	0.0034	0.00034	290,000
4000	0.0019	0.00019	520,000

² Distance from antenna support pole.

³ Microwatts (millionths of a watt) per square centimeter.

Power density does not drop off uniformly as the distance increases because the antenna concentrates energy toward the horizon. At close distances, the amount of signal suppression counteracts the distance factor. At greater distances, the direct ray toward the location of interest more closely approaches the maximum of the antenna pattern. At some distances, the increased transmitted signal strength is a greater factor than the increased distance. Beyond about 700 feet, power density drops off uniformly.

Exposure levels were calculated by methods prescribed by the FCC in a technical bulletin produced by the Office of Engineering and Technology. The rules specify different levels of exposure for two environments: (1) Occupational/Controlled and (2) General Population/Uncontrolled. The second category permits the exposure at most frequencies, including those used for the personal wireless services, to be only one-fifth of the levels permissible for the first category. All exposure environments considered herein are assumed to be in the second category. At 1900 MHz, the maximum exposure level permitted is $1000 \mu\text{W}/\text{cm}^2$ averaged over a period of 30 minutes for the General Population/Uncontrolled environment. The maximum exposure from the T-Mobile system, calculated for any distance is at least 4,500 times lower than the maximum permitted exposure.

In making the foregoing calculations, the assumption was made that a reflecting surface was causing the exposure to be increased because the reflected signal was arriving in phase with the direct ray. The reflected signal could just as well arrive out of phase and act to reduce the exposure. Furthermore, the assumption was made that no

intervening terrain obstructions, foliage or manmade structures reduced received signal strength.

The standard adopted by the FCC follows the maximum exposure limits set by the National Council on Radiation Protection and Measurements ("NCRP"), with some features taken from Standard C95.1/1992 of the American National Standards Institute/Institute of Electrical and Electronics Engineers. The NCRP is an expert group chartered by Congress.

The permissible exposures set, even for the Occupational/Controlled environments are not at the threshold where biological harm may result. They are based on the scientific, peer-reviewed literature, including a data base of in excess of 10,000 papers, reporting experimental results. Studies show that the most sensitive indicator of a biological effect is behavioral. When animals are trained to do a particular task, their performance of that task is modified when exposure is equal to a level approximately ten times greater than the maximum exposure permitted for the Occupational/Controlled environment and fifty times greater than the exposure permitted for the General Population/Uncontrolled environment. Behavior modification is not necessarily harmful and disappears when the field is reduced, but the assumption is made that prolonged exposure in excess of the level causing behavioral modification might be harmful.

Continuous exposure at the levels cited above is well within the maximum exposure level permitted by the standards. Those standards are premised on avoidance of RF exposure that may have an adverse biological effect.

JULES COHEN, P.E.
Consulting Engineer

T-Mobile Site WAN143

Page 6



Jules Cohen, P.E.

November 15, 2005



Jules Cohen, P.E.
Consulting Engineer

PROFESSIONAL BACKGROUND OF JULES COHEN

Jules Cohen received the degree of Bachelor of Science in Electrical Engineering from the University of Washington (Seattle) in 1938. His first professional experience was with consulting engineering firms in the City of Seattle, then with the Bonneville Power Administration, a division of the U.S. Department of the Interior, where he served as a junior engineer and assistant engineer in the substation design section. He was commissioned in the Navy in May of 1942 and served for three and one-half years as a naval officer during World War II. His duties included training at Harvard, at MIT and at the Naval Air Technical Training Center in Corpus Christi. He was a project officer on radar beacons at the Radiation Laboratory at MIT, then at the Bureau of Ships. Under the Commander, Service Forces, Pacific Fleet, he was in responsible charge of the radar beacon program for the Pacific Fleet. His last duty station in the Navy was as Executive Officer of the Electronics Division, Commander Service Forces, Pacific Fleet.

Following release from the Navy, he entered the field of consulting engineering and has been so engaged for 59 years. During 53 of those 59 years, he has been a sole principal, partner or corporate president in a consulting engineering firm. He has been licensed to practice as a professional engineer in the District of Columbia since 1952, has been licensed to practice as a professional engineer in the Commonwealth of Virginia since 1954 and is licensed to practice as a professional engineer in the State of Maryland. During the period of his professional practice, he has provided professional engineering services in the fields of broadcasting and both wired and wireless communications. During the past 25 or more years of his practice, an important aspect of his work has been the analysis by calculations and measurements of radio-frequency exposure. On January 1, 1988, he retired from the presidency of Jules Cohen & Associates, P.C., but has continued providing professional consulting services to selected clients.

Over 10,000 projects of varying levels of complexity have been carried out by him or under his direction. Work performed has included radio-frequency propagation studies, interference studies, frequency allocation surveys, radiation hazard evaluations, standard broadcast directional antenna design and adjustment, AM, FM and TV field strength measurements, television picture quality assessment, satellite earth station studies, the planning and placement of cellular and other communications structures, studio and transmitting plant layouts for both radio and television, equipment evaluation, and extensive work involving the engineering aspects of changes in the rules of the Federal Communications Commission (FCC).

He was the author of Appendix C of the 1975 Cable Television Advisory Committee Panel II report to the FCC. That appendix dealt with the problem of echoes in television systems. He is also the author of the section on low power television in the 1986 edition of the McGraw-Hill Encyclopedia of Science and Technology. He was co-author of Section 2.9, Human Exposure to RF Radiation in the Eighth Edition of the National Association of Broadcasters Engineering Handbook. As chairman of the engineering committee concerned with interference to television broadcasting from noncommercial FM stations, he played a major role in the development of the rules adopted by the FCC governing the assignment of FM stations in the frequency band from 88.1 to 91.9 MHz. He represented television broadcast interests as co-chairman of the Technical Analysis Working Group of the Land Mobile Radio/UHF Television Technical Advisory Committee.

From the time of its inception in 1983 to 1996, Jules Cohen represented the members of the Association of Maximum Service Television, Inc. (MSTV) in subcommittees and technical groups of the

Advanced Television Systems Committee (ATSC). From 1996 to September 1998, he represented the IEEE on the Executive Committee of the ATSC. He has participated as a member, co-chairman or vice chairman of a number of ATSC Technical Groups. As stated in its Charter, the purpose of the ATSC "[is] to explore the need for and, where appropriate, to coordinate development of voluntary national technical standards for Advanced Television Systems."

His participation in the work of the Advisory Committee on Advanced Television Service (ACATS) began in November 1987, the starting date set by the FCC, and continued until the completion of the Advisory Committee's work in November, 1995. He was a member of Working Parties 1 and 2 of the Systems Subcommittee (SS/WP-1 and 2), and Working Parties 3, 4 and 6 of the Planning Subcommittee (PS/WP-3, 4 and 6). Under SS/WP-2 he chaired the Field Testing Task Force. That Task Force completed field testing of the Grand Alliance Digital Television System in October, 1995. Mr. Cohen had a major role in preparing both the specifications for the field testing and preparation of the report following field testing. Under PS/WP-3, he chaired the Spectrum Analysis Working Group.

Clients have included: all five of the major television networks (ABC, CBS, NBC, Fox and PBS), the National Association of Broadcasters (NAB), MSTV, the Electronic Industry Association (now the Consumer Electronics Association), major group owners of radio and television stations, individual radio and television stations, and Cellular System and Personal Communications System providers. He has also provided engineering services to community and citizen groups relative to the placement of broadcast and wireless communications facilities.

For more than twenty-five years, he has worked extensively in the field of nonionizing radiation effects. He has done research in the scientific literature devoted to the subject; participated in the Bioelectromagnetics Society Symposia held yearly from 1979 through 1995, as well as in 1998 through 2004; completed courses in Hazardous Electromagnetic Radiation offered by George Washington University; the Management of Electromagnetic Energy Hazards offered by Cook College, Rutgers University; and Electric and Magnetic Field Health Research: Assessing the Science, offered by the Harvard University School of Public Health; attended meetings of the Electromagnetic Radiation Management Advisory Council; participated in Michaelson Research Conferences in 1994, 1995, 1997 through 2004; moderated panels on the Biological Effects of Nonionizing Radiation at the 1979, 1983 and 1988 annual conventions of the NAB; delivered invited papers on the Biological Effects of Nonionizing Radiation in the 1979, 1984 and 1993 meetings of the Broadcast Technology Society of the IEEE, and, by invitation, provided a critique of the first and second 1979 drafts and the 1985 draft of a RF/Microwave Criteria document of the National Institute for Occupational Safety and Health (NIOSH).

He was a member of American National Standards Institute (ANSI) Committee C95 that developed the 1982 ANSI Standard C95.1-1982 Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. He is a member of the IEEE International Committee on Electromagnetic Safety (known also as SCC 28) and Subcommittee IV, which completed a revision to ANSI Standard C95.1-1982, now identified as IEEE C95.1-1999. Subcommittee IV is continuing evaluation of scientific literature for possible further updating of the standard. The update of the 1999 standard was approved by the Board of the IEEE Standards Association on October 3, 2005, and is expected to be in print within the next few months. He is a member of SCC 28 Subcommittee I that developed IEEE Standard C95.3-1991, and the 2002 revision titled IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300GHz. He is a member of the IEEE Committee on Man and Radiation (COMAR). He is also a member of Committee 89-2 of the National Council on Radiation Protection and Measurements (NCRP). Committee 89-2 has prepared Report No. 119 A Practical Guide to the Determination of Human Exposure to Radiofrequency Fields. Under contract to the NAB, he prepared a suggested revision to FCC OST Bulletin No. 65, taking into account the ANSI/IEEE 1992 exposure guide.

He has made RF exposure measurements at both the World Trade Center and Empire State Building in New York City and at the John Hancock Building in Chicago. Over the past twenty years, he

has also made RF exposure measurements at numerous locations on behalf of broadcast station licensees, cell phone operators, and a satellite station operator.

He has been qualified as an expert witness in Federal Courts, other courts, local boards and councils, and in hearings before the FCC and FAA. Most recently, his expert testimony was accepted in the United States District Court for the Southern District of Florida in the matter of CBS, Inc. *et al v.* EchoStar Communications Corporation d/b/a DISH Network, *et al.*, Case No. 98-2651-CIV-Dimitrouleas/Seltzer.

He is a member of Tau Beta Pi, engineering scholastic honorary, a member of the National Society of Professional Engineers, a Life Member of the American Association for the Advancement of Science (AAAS), a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Life Fellow of the Society of Motion Picture and Television Engineers (SMPTE), a charter member of the Bioelectromagnetics Society, a past president of the Association of Federal Communications Engineers and former chairman of that association's Radiation Hazard Subcommittee. He was selected for the 1988 NAB Engineering Achievement Award, a 1990 Achievement Award of the Broadcast Pioneers Washington, DC chapter and a 1999 award from the IEEE Broadcast Technology Society for a lifetime of service to the broadcasting industry and to the Society. During the year 2000 convention of the NAB, he received a further award from the NAB engineers for his over fifty years of service to the broadcast community and a Pioneers award from the Broadcasters' Foundation.

October 19, 2005